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INTRODUCTION



The **traditional lecture model** is a standard and acceptable learning method in American classrooms, but it is **not the only option**.

Today, more and more educators are considering a new approach – **“learn now, lecture later.”** This model makes lectures available for students to view outside of class, and **classroom time is spent on hands-on learning and group projects**, among other activities. It also **enables faculty to serve as learning guides** and makes maximum use of class time.

To understand how learn now, lecture later is transforming classrooms, **CDW-G surveyed high school and higher education students, faculty and IT professionals**. The resulting report looks at how technology can support the move to a new learning model and the challenges schools must overcome to make a successful transition.



QUICK LINKS TO KEY FINDINGS



Click on the area below to learn key statistics.

Make the Move



- Students are using more tech in class
- Faculty are shifting away from the traditional lecture model

Mix It Up



- Students want a greater mix of learning models – less lecture, more direct interaction

More Technology



- Students also want more technology in class – laptops in high school and recorded lectures in higher ed

Manage Challenges



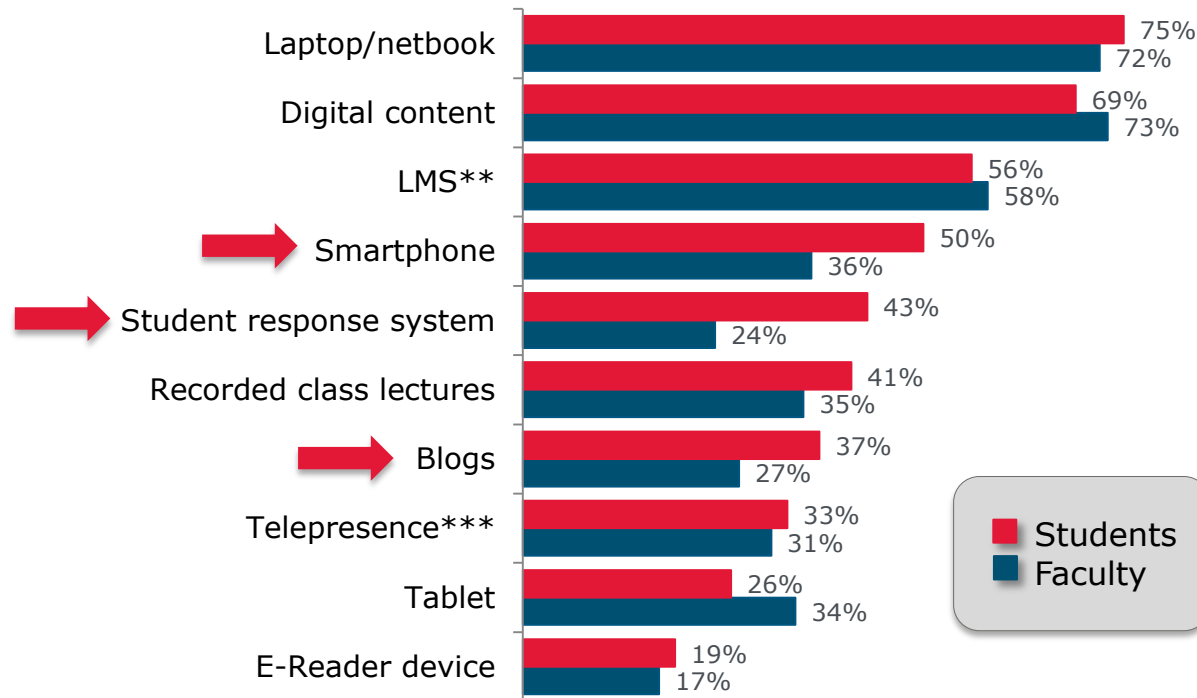
- Lack of budget is the greatest roadblock, but instructional and infrastructure challenges also hinder the transition

MAKING THE MOVE WITH CLASSROOM TECH



- Compared to two years ago, students and faculty say they are using more technology in their classrooms today

What technologies do you personally use in in the classroom *as a learning tool*?



Higher ed students are more likely than high school students to use:

- Digital content: 74% to 64%
- LMS: 72% to 40%
- Smartphones: 55% to 45%
- Recorded class lectures: 53% to 30%

Higher ed faculty are more likely than high school faculty to use:

- Digital content: 80% to 66%
- LMS: 67% to 49%

Arrows denote statistical significance *Respondents asked to select all that apply **Learning Management System ***Includes telepresence, videoconferencing and/or web conferencing

MAKING THE MOVE WITH LEARNING MODELS



- In the last two years, just under half of faculty report a shift away from the traditional lecture model, and **another 20%** are considering a change

Faculty: Which *instructional delivery methods* have you used *more frequently* during the last two years?*

	High School	Higher Ed
Leading hands-on projects with students	60%	59%
Guiding students on group projects	64%	51%
Guiding independent research/study or self-paced study	41%	31%
Distance/virtual learning	15%	37%
One-on-one tutoring with students	35%	13%

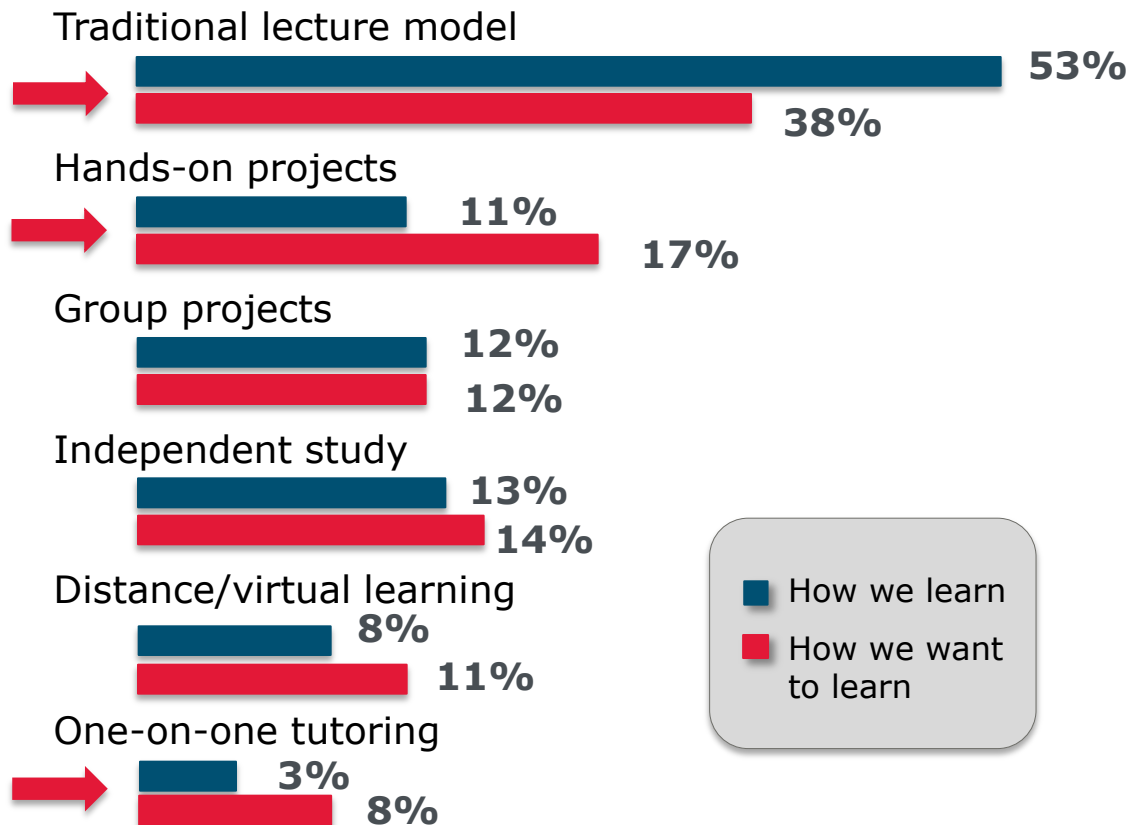
“Based on John Dewey's teaching/learning philosophy of ‘learning by doing,’ students who build on their own learning according to their individual learning style will permanently learn the subject matter.” – Faculty

*Faculty that shifted away from the traditional lecture model; asked to select all that apply

MIXING IT UP IN CLASS

- Students say classroom time is moving in the right direction, but they want a greater mix of learning models

How we learn vs. how we *want* to learn:



"I learn more and get more out of my educational experience when we use multiple methods."
– Student

"[A better mix] allows me to learn the material in multiple, distinct ways and helps teach me how to reach the answer through different methods, such as communicating with classmates and/or researching the answer in topic-specific databases."
– Student

BOOSTING SATISFACTION WITH MORE TECH, LESS LECTURE



- Today, **just 23%** of students say they are very satisfied with the way faculty spend class time

Very satisfied students* listen to fewer lectures than their peers and use more technology in class.

These students say their faculty use technology with:**

- Independent study: **81%**
- Hands-on projects: **76%**
- Group projects: **76%**
- Distance/virtual learning: **69%**
- One-on-one tutoring: **43%**



*Those who said they were very satisfied when asked to think about the amount of class time faculty spends lecturing compared to having direct interaction with students **Of students with faculty that use these teaching models

LEARN NOW, LECTURE LATER AT WORK



Students: How is the shift away from the traditional lecture model impacting the way you learn?

"I often got bored during traditional lectures where the teacher would just talk for the full class period. When we watch videos online, do hands on projects, etc., I am better able to learn the material and retain the information long term."

– Student

"I am a visual learner so incorporating more visuals helps me to understand material more than being talked at for the whole hour."

– Student

"We are learning to think more independently and learning better time-management skills by doing more classwork virtually."

– Student

"I think it makes the learning real. You are able to put the concepts you learn in lecture and use them in real hands-on situations."

– Student

"Technology makes you ready for a real-world experience and makes school work seem more like a job."

– Student

BRING ON THE STUDENT TECHNOLOGY

- Still, **69% of students** would like to incorporate even more technology into their classes as a learning tool



What Students Want:

High School:

- #1** Laptop/netbook
- #2** Tablet*
- #3** Smartphone
- #3** Digital content*
- #5** Recorded class lectures

Higher Ed:

- #1** Recorded class lectures
- #2** Laptop/netbook
- #3** Digital content*
- #4** Learning management system
- #4** Student response system

"The technology is all out there, and the students live in it 24/7, so integrating it into the classroom is a win-win." – Faculty

MORE FACULTY TECHNOLOGY, TOO

- To move away from the podium, faculty members ask for more technology. **Seventy-six percent** of IT professionals say faculty requests for classroom technology are up in the last two years



Faculty: What technologies would you like to have in order to *move away* from the traditional lecture model?*

High School

- #1** Laptop/netbook
- #2** Tablet**
- #3** Digital content**
- #4** Recorded class lectures
- #5** Learning management system
- #5** E-Reader device
- #5** Telepresence**
- #8** Smartphone
- #8** Student response systems

Higher Ed

- #1** Laptop/netbook
- #2** Tablet**
- #3** Digital content**
- #4** Learning management system
- #5** Telepresence**
- #6** Recorded class lectures
- #7** Smartphone
- #8** E-Reader device
- #9** Student response systems

*Faculty asked to consider alternative models, such as hands-on projects, group work, independent study, distance learning and one-on-one tutoring **See appendix for more details on these technologies

RETHINKING THE TECHNOLOGY



- Students and faculty look beyond standard applications to more advanced, interactive uses



What is your **favorite way** that faculty has incorporated technology into a class?

"We watched videos in my AP chemistry class. They were presented by a teacher in a different state who at one point helped to write the AP exam, so I really felt like she knew what she was talking about."

– Student

"I teach distance learning courses; I hold my office hours on Skype, and I use it for small group meetings."

– Faculty

"My teacher asks questions in class using clickers so that we can get immediate feedback.

It's a good way to pace class. If there is something we don't understand, the teacher can go over it before moving on to a different concept."

– Student

"In a graphic design class, we used Adobe CS3, scanners, digital cameras, flash drives and Wacom tablets. I think it's important for these kids to use the tools of the trade that they are thinking of going into."

– Faculty

"My favorite way technology has helped my learning process is scanning readings and making them available through online learning management systems. It saves the students a lot of money, and I can read them anywhere on my phone or laptop."

– Student

WHAT'S THE HOLD UP?

- Lack of budget, access to classroom technology and class size are the greatest roadblocks to reconfiguring classroom time. Overall, **88% of faculty** see challenges moving away from the traditional lecture model

What are your district/institution's *biggest roadblocks* to moving away from the traditional lecture model?*

	High School Faculty	High School IT	Higher Ed Faculty	Higher Ed IT
#1	Lack of budget	Lack of budget	Lack of budget	Lack of budget
#2	Access to technology in the classroom	Lack of professional development	Class size	Lack of time
#3	Class size	Lack of technical support	Lack of time	Lack of professional development
#4	Lack of technical support	Lack of time	Lack of professional development	Departmental curriculum

*Respondents asked to select top three challenges

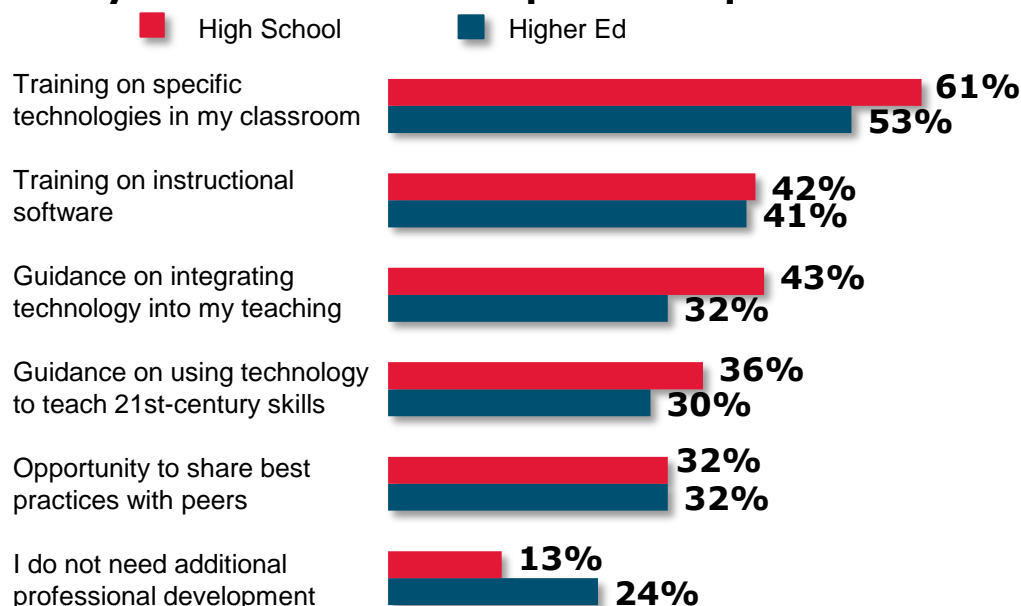
INSTRUCTIONS NECESSARY

- More than just tools, faculty need professional development



In the last two years, **76%** of IT professionals say they received increased faculty requests for help with technology integration and related professional development.

Faculty Professional Development Requests:*



Faculty: How can your district/institution help you become more comfortable or proficient with classroom technology?

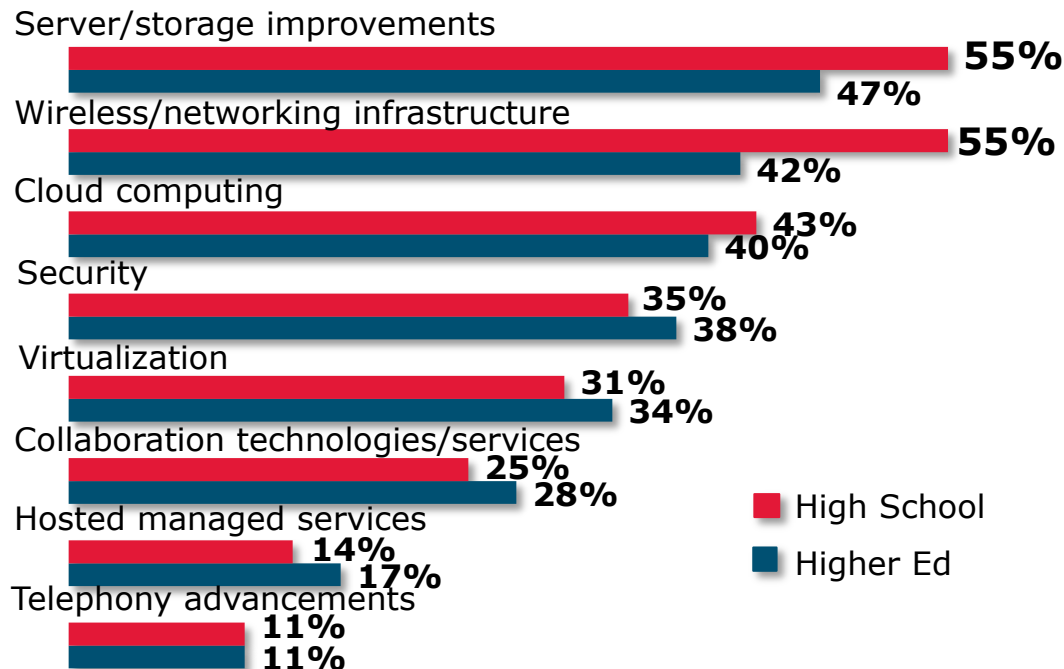
- ✓ "Allow more innovative assessment measures and **define learning outcomes** instead of exact material to be covered."
- ✓ "**Fund attendance** to professional meetings that focus on the use of classroom technology."
- ✓ "Give teachers **more software and virtual storage space**. Eliminate roadblocks. Improve IT."
- ✓ "**Hire technology coaches** that meet with teachers and come into the classroom to assist teachers who are interested but uncomfortable with technology."

*Faculty asked to select all that apply

INFRASTRUCTURE IMPROVEMENTS

- To support these changes, IT calls for improvements in storage, network infrastructure, cloud and security

IT Professionals: What IT infrastructure would you *need to add or upgrade* to support a change in instructional delivery and incorporate more technology in a classroom?*



87%

of IT professionals say they need to upgrade their district/institution's infrastructure to incorporate more technology in the classroom.

*IT professionals asked to select all that apply

RECOMMENDATIONS

- **Get to the heart of what students and faculty want:** Understand the technology your users already have, how they want to use it in class, and how to they best learn and teach
- **Consider how to incorporate different learning models:** Work closely with faculty to meet their subject-area and curriculum needs and personal teaching styles
- **Explore how technology can support *and* enhance learn now, lecture later:** Enable the community to consult with each other and share best practices
- **Support faculty with professional development and IT with infrastructure:** Unless faculty are comfortable, the change will be slow and without IT, the change may not happen at all



METHODOLOGY



- CDW-G surveyed* 1,015 students, faculty and IT staff in May and June 2012
- Sample size and margin of error:
 - 1,015 total respondents: $\pm 3.0\%$ margin of error at a 95% confidence level
 - 410 students: $\pm 4.8\%$ margin of error at a 95% confidence level
 - 304 faculty: $\pm 5.6\%$ margin of error at a 95% confidence level
 - 301 IT staff: $\pm 5.6\%$ margin of error at 95% confidence level

Type of Institution	Faculty	IT Staff	Students
Public High School	50%	50%**	50%
Four-Year College/ University	37%	43%	39%
Community College/ Technical School	13%	7%	11%

Student Class Standing as of Spring 2012	
Freshman	13%
Sophomore	26%
Junior	26%
Senior	35%

Faculty Years Taught	
Less than 5 years	17%
6 to 10 years	17%
11 to 15 years	16%
16 to 20 years	10%
21 to 25 years	11%
More than 25 years	29%

*Research conducted by O'Keeffe & Company **Public school district IT staff asked to consider their district's high schools



THANK YOU.

FOR ALL MEDIA QUESTIONS AND INQUIRIES, PLEASE CONTACT:

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SPOTLIGHT ON TABLETS



26% of students and **34%** of faculty have used tablets in their classrooms

Those with access to the device use it often: **71%** of students and **75%** of faculty say they use their tablets at least once a week

47% of students want faculty to incorporate more tablets into their classes as a learning tool*



How do you use tablets?

- "I prepared lecture slides on my tablet, displayed on a projector, presented using interactive discussion and linked to **have the class solve problems** together." – Faculty
- "My tablet can **store books and has apps to capture notes**. I carry less now that everything is with me on my tablet at hand." – Student
- "I keep my course notes on the tablet and lecture from it. Occasionally, I will display material from the tablet via projector. I distribute readings and notes in PDF format, and **students who have tablets bring them to class and use them to follow along**." – Faculty
- "My school gave everyone iPads this year. **We do much of our work – papers, projects, etc. – on the iPad** and email them to our teachers." – Student

*Of those who want to incorporate more technology; n=282

SPOTLIGHT ON DIGITAL CONTENT



69% of students and **73%** of faculty have used digital content in their classrooms

Of those who report using digital content, **62%** of students and **68%** of faculty say they use it at least once a week

48% of students want faculty to incorporate more digital content into their classes as a learning tool*



How do you use digital content?

- “Students **use online materials to enhance** the classroom content.” – Faculty
- “In most of my classes we read from a wide variety of books/journals. Rather than buying 10 books, **we access digital material** and either print them or read them electronically.” – Student
- “I have students do web-based laptop research and **watch streaming content.**” – Faculty
- “My teachers often post PDF files online, including homework, PowerPoints and lecture notes from class. Some **teachers also post audio files of lectures** and discussions.” – Student
- “As a Spanish teacher, **I find a lot of Spanish television shows, radio broadcasts**, etc.” – Faculty

*Of those who want to incorporate more technology; n=282

SPOTLIGHT ON TELEPRESENCE*



33% of students and **31%** of faculty have used telepresence in their classrooms

Of those who report using telepresence, **42%** of students and **30%** of faculty say they use it at least once a week

30% of students want faculty to incorporate more telepresence into their classes as a learning tool**



How do you use telepresence?

- “It enables me to **bring in guest lecturers from anywhere in the world.**” – Faculty
- “My professors will sometimes hold a **video conference review session with the class** in the evening a few nights before an exam.” – Student
- “I don't use this much yet, but I plan to next semester. I hope to **be available via Skype for office hours** (so students don't have to come to campus on their off day to meet with me). I will also try recording lectures for students to watch before class, using class time for more interactive activities.” – Faculty
- “I use it to **get together for group projects** when my classmates schedules do no meet up.” – Student
- “We can **take field trips without going anywhere.**” – Faculty

*Includes telepresence, videoconferencing and/or web conferencing **Of those who want to incorporate more technology, n=282